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INFANT MORTALITY.*

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Since a high infant death rate is not only a stigma on the civilization of a country, but is a matter of vital importance to the existence of the nation among the powers of the world, no nation can wisely allow its vital resources to be continually drained by unnecessary and continued loss of life. The babies of this generation are the material out of which the citizens of the next are made, and they should be given every attention and protection.

The reduction of infant mortality is not merely a question of scientific value but it is a question of putting a value on human life above the commercial value of certain interests.

No better illustration of the cheapness of human life can be imagined than the past methods of civilized nations for investigating disease. The United States Government has spent untold thousands every year in official investigation of diseases of domestic animals, but has scarcely recognized the necessity for such work in human diseases.

I would like to say that last night I heard one of the medical officers say we are now getting anything we ask for. This situation I have just mentioned is possibly due to the medical profession and not the government, because we have not asked and demanded this from the government.

When extermination threatened the cattle in South Africa, the English government offered ten thousand pounds sterling, to a scientist, to investigate the matter and propose a remedy. But when sleeping sickness began to kill the natives by the hundred thousands, not a penny was appropriated. It might be put even stronger yet, for Anglo-Saxon democratic governments have opposed any appropriation of public funds for the investigation of human pathloogy. Life has been considered too cheap to waste money this way; if people died there were that many more positions to be filled by the unemployed, but when cattle died it was a serious matter. In a peasant family ,it was a far greater disaster to lose a pig than to lose the baby.

In discussing the causes of infant mortality, let us look at the subject from the three periods of time that relate to it: ante-natal, neo-natal, and post-natal. The strongest weapon which we have for fighting infant mortality may be used during the ante-natal period, in endeavoring to establish a high standard of physical motherhood by the education and care of the mother at the time. She

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should know the importance of proper exercise, a well prepared and nutritious diet, and a happy and cheerful frame of mind. In fact, since the welfare of both the prospective mother and child depend in such large measure on the health of the mother, it might be well to consider the whole period of her life, under the ante-natal period.

I would like to say right here that I was glad to hear Dr. Fowler say this morning that in nearly every case, if not every case, he used the Wassermann. How many times in taking the history of our expectant mothers they will say: "I have lost several children at a certain month; I have never been able to carry a child to term"! What do we suspect right away? If we will take a Wassermann right there we would more than likely find out the condition and the reason why she was not able to carry her child to term.

As truly as the welfare of the ante-natal period is dependent on the common sense and judgment of the mother, the welfare of the neo-natal is dependent on the training and experience of those who attend her. And I should like to say something in regard to the midwives of today, since often there is only a midwife in attendance during confinement. Certainly there should be some law restricting the practice of midwifery to those who have been properly trained for the work. On this subject Clara D. Noyes, General Superintendent of Bellevue Training School, said:

> "The more highly trained and educated the midwife, the less willing will she be to assume responsibilities which are not hers, and the more quickly will she recognize them, and the greater discrimination will she show in the type of physician she calls to her assistance."

It is very important that the one in attendance, whether midwife or physician, have an early knowledge of the position of the child, so that any change which may be necessary can be made before its life is endangered. It is also important that a too prolonged labor be guarded against, since the mentality, if not the life, of the child is often dependent on this. In such cases, the use of instruments is often necessary. While it is not a general practice to follow Crede's method of using the nitrate of silver solution for the eyes, nevertheless it is an excellent precaution against an infection that often results in blindness.

I wish to state here that I have delivered one hundred and thirty women since July 1st—that is the beginning of our medical year—and in no case have I failed to use nitrate of silver in the eye. I do not care what kind of a home it is, whether it is a preacher's home or a higher-up or a low-down, because syphilis knows no respect of persons—I mean gonorrhea knows no respect of persons—and I believe it will be required by law after a while. I think we just as well get down to it now.

In spite of the fact that some seem to regard the responsibility of a physician in confinement cases very lightly, the life of the child often depends upon his quick and sound judgment.

In considering the post-natal period, it would be well to quote from Dr. Holt, who in a few words strikes the keynote of the greatest dangers that threaten the early life of the infant:

> "The fundamental causes of infant mortality, as we may call them, are mainly the results of three conditions: poverty, ignorance and neglect. The curve of diarrheal diseases is so important that it practically controls the curve of infant mortality; this group embraces acute gastritis, gastro-enteritis, all forms of acute diarrhea, dysentery, and cholera infantum, and makes up the largest part of the universal summer mortality. It is these diseases which cause, regularly, each year, the sharp rise in the death curve in July and August."

It is a well known fact that all these diseases are mainly caused by improper feeding, and in this way poverty, ignorance and neglect exert their greatest evil

influence. It is a fact shown by statistics, that ten bottle babies die to one that is breast fed, and this is easily understood when we realize the sources and conditions under which the milk is obtained in the very poor districts. However, efforts have been made to correct this evil, by the establishment of pure milk stations for the poor in the crowded districts. Also trained nurses and doctors are employed to visit these homes in order to instruct the ignorant in the care of their babies. Naturally, the progress of such work is slow, but if persevered in, it will no doubt in time result in not only a great lessening of the death rate, but a wonderful improvement in the mental and physical makeup of our future generations. Ignorance and neglect are by no means confined to the poverty stricken districts, as we all very well know. How often, in well-to-do homes, are we obliged to combat wrong ideas in regard to the dressing of children, fresh air, etc.

Although gastro-intestinal disorders cause such a large per cent. of infant mortality, we should not forget the importance of respiratory troubles, under the head of which we might mention la grippe, measles, the pneumonias, whooping cough, etc. Just here let me lay stress on the importance of close attention to the baby suffering from whooping cough, for very often severe complications arise from this disease. It is needless to advise the early use of large doses of anti-toxin for diphtheria. Other diseases endangering the lives of infants could be mentioned, such as acute anterio-poliomyelitis, and cerebro-spinal meningitis.

The most that we can do is to guard, as carefully as posible, the infants that come under our care, and use all our influence to lessen the conditions that make the death rate so high; for as Dr. Wall, of Washington, so truthfully expresses it:

> "Until that millenial dawn, when poverty ceases to exist, there will be an infant mortality which needs no electric emblazonry in the sky to flash out its startling message that a baby dies each minute throughout the land. So long as the grim reaper exists, just so long will there be the toll of death from the ranks of the new-born and the nurseling, and unless there be agitation and agitators to awaken the dormant sensibilities of those who have passed through and left in oblivion these early days of peril, and who in their blindness of ignorance, of apathy, or even of mercantile selfishness, neglect the problems of infant and child welfare, the sacrifice of the young will continue, and leave its impress of ignominy upon the human race."

Discussion.

Dr. H. M. Reeder, Shawnee: Dr. Anderson spoke of the three greatest factors that contribute to infant mortality as ignorance, poverty and neglect; I would like to paraphrase that and say "and the greatest of these is ignorance." I think there is more of this mortality that is due to ignorance than to any other cause, and many times not only the ignorance of the parents but of the neighbors. If the young mother does not know, she does not ask the advice of the doctor, some old woman, no matter how well the baby is thriving on the breast, will tell her it should be fed a little. I have seen them given coffee and say they think it is good for them. And yet that same mother will complain of her stomach and say she believes it is the coffee that is hurting her and she will quit it but she will feed it to the baby.

In other cases I have had trouble quite frequently in trying to teach the mother to have a separate bed from the child and separate the child from being in the bed between the mother and the father, where it would probably get too hot and then the cover would be thrown off of it. In one case I happen to know of, the mother rolled over on the child and smothered it to death. There is a sentiment about that, it seems they think it is cruel to the child to make it sleep by itself. If they go to bed with the child and they have respiratory diseases, the child is much more liable to have them communicated to him.

Dr. W. W. Wells, Oklahoma City: This is just as interesting as obstetrics, this discussion of pediatrics. The mortality you all know is great; we do not as a general rule pay much attention to the child. If he is lost, it is all right. It is like that old story about the young fellow who went out to take care of a confinement, and when he came back his wife asked him how he got along and he said he lost the child and mother but the father was doing well.

That is just about the way with this work. We are prone to let the child die or not try to relieve it and consequently the morbidity of childhood is great. We do not use the precautions that we should in taking care of the eyes. I have found in my work that a one per cent. silver solution gives better satisfaction than a ten per cent. argyrol solution. I have used them both in maternity and have had infection of the eyes following the use of the argyrol solution. Whether it was through neglect on the part of some of our nurses or the mother of the child or whether it was because we did not use a strong enough solution or whether silver nitrate is just a little bit better than argyrol, I do not know. I believe it is the latter because we all know that in our cases of urethritis when we cannot clear them up with argyrol, if we use a good strong silver solution they usually clear up. So I believe silver is much better; it seems that way. The doctor spoke of that point and I wanted to emphasize it.

Dr. L. W. Cotton, Enid: Just a word. I think that Dr. Reeder struck the keynote when he said that ignorance is the leading factor in the mortality of children. In treating people, especially in the country, and not only in the country but in the town, they often quote to you the old saying: "The Lord giveth and the Lord taketh away. He has given us our little baby and he has taken it away." You cannot prevail on them or get them to understand that it is their ignorance and carelessness and bad management that caused the loss of the child. That is one of the hardest tasks before the medical profession, to teach the people that we are not to blame for the large mortality in children.

In my mind there is only one good remedy to use on the eyes, and Dr. Anderson certainly struck the keynote there when he said he used it in every case in the last year—that is silver nitrate. On the birth service the question is asked, it is put up to our integrity and honesty to have regard for the rights of the children —"Did you use silver nitrate?" I want to impress upon you that one point. The profession at large, who know the use of silver nitrate and argyrol, certainly say that in a great majority of cases that silver nitrate is far superior.

Dr. O. A. Flannagan, Tulsa: There is just one point I wish to bring out, and that is with reference to the nursing. The nursing of the infant is the all important thing, it is the natural food for the child and whenever we put it on something else we are putting it on artificial food. One of the greatest dangers we have to children is for the mother to wean the baby and put it on some artificial food, and I think to some extent the physicians are responsible for that. With the least bit of a discouraging remark from the mother about inability to nurse the child, the physician or the mother will suggest the advisability of weaning the baby. That should be the very last thing attempted or the very last remedy suggested, especially in those cases where there is some difficulty in the digestive apparatus it is the last thing suggested. In some way, by examining the condition of the mother or by the analysis of the milk, some defective point will be brought out that in most cases can be remedied; and if the proper exercise and hygiene and food and the proper regulation of the life of the mother is looked into, these things can be mostly corrected.

Another thing that increases the infant mortality—I do not know whether the obstetricians brought it out this morning or not, but it seems to me it has a great influence on the infant mortality—that is the hastened delivery, pituitrin and the forceps delivery. If we really knew how frequently they were responsible for the death of the infant, I think they would be far less frequently used than they are at the present time.

Then we spoke about the children all being examined and looked after during the school age. As I said a moment ago, the most important time in the life of any organism is when that organism has its greatest time of development; and in the child's organism, particularly, that greatest time in the period of its development is the pre-school period, but this pre-school period is entirely neglected at the present time and left up to the intelligence of the mother. After the child begins to attend school, he comes under the supervision of the teacher and possibly of the school physician; but previous to that the mother is holding its care, and it depends upon her intelligence and how we as physicians teach her what knowledge she has in reference to the proper bringing up and development of that small organism which is so potentially subject to the infections and the disturbances, particularly at this period of life.

Dr. J. R. Burdick, Tulsa: I believe Dr. Flanagan brought out one of the most important things in the treatment of children. Very few physicians take the time to instruct the mother at all in the feeding of the baby. They are in a hurry to get away after the confinement and we very seldom give the mother instructions as to the feeding the baby.

There are only a few reasons or specific causes for taking the baby off the breast, such as syphilis, tuberculosis, and sarcoma. I believe the baby should be brought up on the breast. I have it put up to me so many times that they have not sufficient milk for the baby, but under those conditions I use some artificial food, but I absolutely refuse to take it from the breast unless there is some specific cause. I think that the doctors are too lax in instructing the mothers about how often and when to feed their babies and about taking care of their feed. I think this is very important right on the start but is too often neglected. And I will say that it is criminal neglect not to use the nitrate of silver in every case of confinement.

Dr. J. S. Hibbard, Cherokee: About infant feeding: Day before yesterday, before I came, I found two of my mothers, one with a baby fourteen days old and one seven days old, and both of them were weaning their babies. Both of them claimed they were short on milk; one of them was a very intelligent woman, one was of ordinary intelligence. Both of them had been advised by some neighbor women without consulting me about bringing up the flow of the milk.

I instructed them to put the babies back on the breast again and not to substitute a feeding of artificial milk, but to let the babies nurse at regular intervals just like they had plenty of milk and then top off with some artificial food. If you let the baby nurse at regular intervals, the mother will be more apt to have sufficient milk. It is only recently I got hold of that idea and I have found it makes quite a difference; where you substitute a food entirely, you won't bring back the milk like you will where you have your baby nurse regularly and top off with the artificial milk where you do not get enough.

Dr. Vest: I would like to hear from some men who have had experience in artificial feeding as to what they have found to be next best where it is necessary to take the child off the breast, what they have found to be next best in the way of artificial feeding.

Dr. J. R. Burdick, Tulsa: That is about all I am doing, is feeding babies. I want to say right here that until I came down to Oklahoma from Chicago I really did not know what Eagle Brand milk was; I never had used it, and I can say truthfully I never have prescribed it. I actually believe it would have to go out of existence if it was not for Oklahoma; it certainly is used a great deal in this state. I am using modified cow's milk entirely. I do sometimes use Mellin's Food with cow's milk and sometimes Horlick's Malted Milk; I never use Eagle Brand and I never have any trouble with modified cow's milk.

Dr. Vest: Don't you find you have so much trouble they won't use it?

Dr. Burdick: I do not find it so. I find some of the families who have found it was a good deal of trouble before I was called. But when I have been called into the family and explained the advisability of using it over the artificial food, I would not have any trouble. Of coures it is very often put up to me that the milk is bad, that they cannot get good milk; the poorest milk in the state is right here in Tulsa. But I get around that by insisting that in all of my cases they boil the milk. That is all I am using and I have splendid success.

Dr. Vest: Will you tell us how you modify it?

Dr. Burdick: That depends a good deal upon the patient. I figure out the caloric value of the milk. I believe that the baby should have an ounce and a half of milk per pound of weight and I get the weight of the baby and figure out the amount of milk it should have and then modify it according to the age and amount of feed each hour.

And I firmly believe that you will get better results from putting your baby for the first month on a four-hour schedule than you will on a three-hour schedule. I am doing that where I am using the cow's milk and I find that if I adhere to the four-hour schedule I can get better results than I can with the three-hour schedule.

We used to have the three hour schedule in Presbyterian Hospital in Chicago, and a year ago all their babies were on a three-hour schedule, and a record kept of each one of them. This last year every baby at the hospital has been on a four-hour schedule, and I am told that they have gotten better results and better gains throughout the year than they did on the three-hour schedule.

I believe the most trouble met with in feeding babies is feeding them too often. If you get the right balance in your milk so that the baby is satisfied at the time of feeding, he will sleep three hours and a half and sometimes sleep right through the next feeding, but I do waken them up at the feeding all during the day. I absolutely feed them by the clock.

Dr. Springer, over here, has had a little experience feeding babies, and I think he will bear me out. I would be glad to answer any other questions.

It is coming to the time when the future generation in this country as well as in foreign countries is dependent upon the development of our children; this is becoming more essential every day, and I think the time is comming when this feeding proposition will demand a great deal more attention.

I find that I have a great many cases here in the summer-time where they have been feeding Eagle Brand, and they are much more susceptible to stomatitis and summer complaint. You take the same baby on a proper artificial feeding and he will stand the heat much better; he has the punch to put him over the critical time. That is the reason I use modified cow's milk, and I always boil it. I demand the use of it and I have never seen any bad effects from it. They say it causes constipation and indigestion, but I do not find that to be true. I believe it is more easily digestible than if you have a foreign food, and will better take care of your baby.

Dr. Anderson, closing: All I have to say is that I want to thank you gentlemen who have waited here to hear the last paper at this hour, and I certainly appreciate the discussion. That is all I have to say.

THE MANIFESTATIONS OF SYPHILIS IN PREGNANCY AND THE NEW BORN.*

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Syphilis is a disease which in the pregnant woman is often overlooked as the history is usually very indefinite. Perhaps the first sign we recognize is an abortion, or stillbirth. When a woman comes under our care bearing a history of repeated interrupted pregnancies, it would be well to have a Wassermann in the beginning of treatment. It is estimated that 40 to 80 per cent. of these cases are syphilitic.

Syphilis in the female does not show the marked manifestations of the nervous system, as paresis and tabes dorsalis as it does in the male. In the female, syphilitic ulceration of the cervix may be mistaken for cancer, as the most prominent symptoms of both is hemorrhage. Latent syphilis prevails more in the female than in the male.

The time and stage of the infection seems to have an important bearing on pregnancy, labor and the offspring. The manner of communicating the disease from the paternal side to the foetus is still somewhat of a mystery. The spirochete is three times larger than the head of the spermatozoa, so unless the mother is infected, the only plausible way that the foetus could become syphilitic would be that the spirochete would be carried to the mother, through the semen. These women give a positive Wassermann, so they probably become infected through the semen, and actually have syphilis which is in turn communicated to the ovum.

Now, what may we expect, if a woman becomes pregnant and infected at the same time? First if the infection is located as a primary lesion on the cervix, the chancre would take on more malignant character and would be much larger, bleed more freely, destroy more tissue and would yield much more slowly to treatment. This applies not only to the lesion on the cervix, but anywhere about the female genitalia, as these are better supplied with blood and are edematous in the pregnant.

If the primary lesion, located on the cervix, heals, it leaves a dense scar which causes cicatricial stenoses of the os and will dilate, at the time of labor, very slowly.

The secondary stage comes sooner and with more virulency, often forming maculo-papular syphilide; these may become pustular.

The tertiary symptoms come on early and are more extensive, in the form of simple condyloma and gumma. In our work we see a good many cases where the vulva and floor of the vagina is a mass of flat condylomata; and when the head of the child begins to stretch the vulva, the skin and perineal body will tear like blotting paper. These cases when repaired do not heal by first intention, hence there is no use to put in sutures; we let them heal by granulation.

When a syphilitic woman becomes pregnant or a woman is infected with syphilis at the time of conception, interruption of pregnancy is the rule. A syphilitic woman may bear a living child that does not show symptoms of syphilis; but not the first pregnancy after infection; they usually have two or three abortions progressing further along in pregnancy each time, then one or two stillbirths, then a living child which dies soon after birth; and finally a living child which may show no symptoms of syphilis.

Here permit me to relate the history of a case which came under my observation. The patient, a girl of 18 years, became infected at the time of marriage. The primary lesion was located on the labia minora, and healed without specific

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treatment. The secondary lesions came on in the usual time, and these she sought treatment for, and was found to be about two and one-half months pregnant, and aborted in a few weeks. Anti-syphilitic treatment was given immediately but was not continued successfully, owing to the indifference of the patient. About eight months later, another abortion at four months; and one year later, a seven month macerated foetus, which was sent to the laboratory for examination. The pathologist found live spirochetes in the placental blood. The blood of the cord, placenta and foetal heart gave a Wassermann. One year and a half later she delivered an eight month stillborn child. She has taken very little treatment, in fact none, since her second abortion. Her next child will probably live only a short time. If this patient would take treatment she could give birth to a living child; and even without treatment she may have a living child.

The cause of these abortions and miscarriages is syphilitic endometritis. The impregnated ovum is unable to develop. When it gets nourishment enough to go to term, we often have an adherent placenta. We may have infection and fever from retention of hypertrophied decidua. Acute nephritis occurring during pregnancy in some cases has been traced to syphilis. In labor the progress is usually slow, the pains are weak, and abnormal presentations are frequent. The child may be free from the disease, but may become infected at delivery in passing through an ulcerated syphilitic birth canal. The chancre is the mother colony and contains many organisms in an almost unkillable state.

The signs of syphilis in a newborn child are coryza syphiliticia (or snuffles), cutaneous eruptions, and mucous patches about the mouth and natal fold, as well as restless sleeplessness, marasamus and glandular involvement. If no symptoms develop in three months, we can be fairly safe in saying the child is not syphilitic.

With our modern methods of diagnosis, used intelligently in connection with our clinical findings, syphilis should net be overlooked in pregnancy.

TUBERCULOSIS AND CANCER.

A. C. Broders, Rochester, Minn. (*Journal A. M. A.*, Feb. 8, 1919), after quoting Rokitansky's views as to the incompatibility of cancer and tuberculosis and reviewing the literature of the negative side of the question to some extent, concludes as follows: "1. The theory prevailing among the majority of physicians for a number of years and still prevailing among a few, that tuberculosis and malignant neoplasia are antagonistic, has not been borne out by the facts. 2. The fact that some tissues or organs are, to a certain degree, immune from one or the other or both of these diseases does not prove that the two diseases are antagonistic. 3. If the observations of Naegeli are correct, in which he showed that in 93 per cent. of 420 necropsies on adults more than 18 years of age, either active, latent or healed tuberculosis had been present, then it is reasonable to believe that similar findings should prevail in an equal number of persons who have died with malignant neoplasia. 4. It would seem that the reason pathologists are not finding tuberculosis more frequently at necropsy in persons who have died with malignant neoplasia is that the pathologists are satisfied to find the malignant neoplastic condition, and therefore fail to make a thorough search for tuberculosis. 5. Since the surgical pathologist's examination is limited to the tissue removed by the surgeon, he is greatly handicapped in the search for the two conditions associated, while the pathologist doing a necropsy has access to a large part or the whole of the body. 6. The fact that active tuberculosis occurs most frequently in persons under 45, and malignant neoplasia, epithelial tissue malignant neoplasia, most frequently in persons over 45, does not prohibit the association of latent and healed tuberculosis with malignant neoplasia. 7. In our series of twenty cases the two conditions were associated in the same microscopic field seven times (35 per cent.)."

PRACTICAL THOUGHTS ON THE CARE OF THE PREGNANT WOMAN.*

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In this paper I do not hope to give any startling facts of recent output, or any radical treatment, but merely to clinch this thought: know what event is coming and prepare for it; and to educate our people in this as we should, that we can give them better care, and can protect ourselves from unpleasant happenings.

In these days we read and talk on preparedness, getting ready for the coming events, and I think it is safe to say that we all favor the plan. And so it is with the expectant mother, it is so arranged that Nature gives a warning, a notice, that some time soon we can expect just such a condition, so why not plan, and prepare, and get ready for it? For some time past it has been my custom to take only such cases as have engaged me at least two months before.

I believe that we, as physicians, should educate our people in this way and soon they will not call us without giving us a chance to be ready, posted and prepared for the case as we have found conditions from time to time. As soon as she is aware of her condition, or has a belief as to its probability, the expectant mother should place herself under the care of the physician of her choice, as a certain degree of medical advice and attention is required during the whole period of pregnancy.

While the conditions as a rule are weakness and unrest, the borderland between health and disease may very easily be overpassed. At any time disorders or complications may occur; these in all probability can be warned off or promptly remedied by physicians' watchful care.

We should take time to instruct the woman that her whole duty now is to herself and child; we should tell her of some things to expect, of other things that she should call our attention to at once if they do occur; in fact, I believe in taking the patient, in conversation, along the period of gestation.

The kidney I believe we all give more consideration to than we do almost anything else. We know how important it is to analyze the urine often, especially during the last three months.

Conditions of the bowels: Many women, perhaps most women, suffer from constipation during this period, due largely to the increased pressure exerted by the enlarged uterus upon the intestines and often it becomes a source of great discomfort during the last months of pregnancy.

It is very important that the bowels should act freely, at least once each day. This can be accomplished very often by the use of laxative foods, rather than by purgatives or enemas. Here it is that time must be taken and the physician explain that if they will do as you advise and follow your diet list, that in nine cases out of ten they will not be obliged to take medicine and that all will be well.

Give them a list of fresh fruits: oranges, apples, apricots, pears, figs, pineapples, grapefruit; cooked fruits, such as prunes, figs, apples. All food should be plain, nutritious, easily digested and taken at regular intervals. Bread, such as whole wheat, bran bread, graham bread, stimulates the intestines and increases their activity. Vegetables, those growing above the ground, are considered the most nutritious and most easily digested.

Exercise we should impress upon these women. I am in the habit of saying: "Go on with your work and habits very much as you would if you were not pregnant, except stop before you are completely tired out; stop short of fatigue. Spend a part of each day walking in the open air." Pleasant outdoor exercise

*Read in Section on Pediatrics and Obstetrics, Tulsa, May, 1918.

invigorates the muscles, and stimulates the sweat glands, and other excretory organs; strengthens and restores the nerve tissue; clears the brain and sends a supply of blood to all parts of the body, thus increasing courage, cheerfulness and general helpfulness.

With such advice we can help our pregnant women to look forward to delivery with confident cheerfulness. The pregnant condition often brings on a feeling of depression of spirits, and the delivery is looked forward to as a time of extreme suffering and peril, rather than one of triumph and joy.

Late hours, or excitement of any kind should be discouraged. An abundance of sleep is necessary, at least eight hours should be taken every night, and it is well to advise a nap after dinner; to those who cannot sleep during the day, advise them to lie down if only to relax and rest.

I have a few words only as a rule to say about their clothing, except to have loose comfortable clothes; the shoes and every piece of wearing apparel must feel comfortable. One thing I find in a great many cases is that they wear tight elastic garters which I order off at once.

Then we should advise about the care of the teeth, as the saliva is acid during pregnancy and the teeth decay more rapidly if neglected. We have all often heard it repeated: "For every child the mother loses a tooth too soon." So an alkaline mouth wash should be recommended.

Order daily massage of breast and abdomen with olive oil; this is often good.

When we have charge of these cases beforehand we can make examinations and order such care as needed, we can go into them with confidence, instead of fear and trembling.

INFECTION THROUGH THE EYE.

K. F. Maxcy, Fort Sill, Okla. (*Journal A. M. A.*, March 1, 1919), calls attention to the likelihood of infection through droplet spray in the eye. The fact of the spread of the disease by projection of droplet conveyed germs has been demonstrated, and this method of infection is most probable during active and waking hours. The infection through the nares, which are less directly exposed owing to the downward direction of their outlet, and the mouth, which is not liable to receive droplets except when held open, is practically less possible than that due to spray droplets on the directly exposed 600 sq. mm. of eye surface. When this is reached the germs can be carried into the lacrimal ducts to the nasal passages. Experiments are detailed by Maxcy showing how this process practically occurs. A suspension of B. *prodigiosus* could be instilled into the conjunctival sac and be recovered within from five to thirty minutes from the nasal passages. From this point the infective germs can be carried in to the larynx and to the respiratory tract, or into the gastro-intestinal tract through the esophagus as well as be discharged through the mouth in the sputum. The gauze face mask protecting the nose and mouth, therefore, is not a complete protection, and the frequency with which respiratory infections are conveyed from one person to another amply warrants this possible route of contagion as a formidable probability. It is impracticable, however, to use the gauze mask with very sick persons, and physicians and attendants should bear this fact in mind. Maxcy offers the following conclusions: "1. The eyes offer a relatively large surface area for the reception of droplets sprayed from the mouths of other persons. 2. An organism introduced into the conjunctival sac may be recovered from the nose in five minutes, from the throat in fifteen minutes, and from the stool in twenty-four hours. 3. The upper respiratory tract of a person wearing a properly constructed mask may be infected by exposing the eye briefly to direct droplet spray. 4. This portal of entry is of importance in the transmission of acute respiratory infections."

ACUTE FRACTURES OF THE SKULL.*

A. Ray Wiley, M. D.
TULSA, OKLAHOMA

Acute fractures of the skull are of such importance that any new or practical knowledge of the subject should at once be noted. The mortality of this unfortunate condition as treated by the method of the recent past and the methods still in vogue in many localities is appalling.

During the year 1917 and part of 1918 it was my good fortune to be House Surgeon of the New York Polyclinic Hospital, and through the kindness and personal friendship of Dr. Wm. Sharpe, to improve my knowledge of the above subject.

The subject is too large for a single paper, so I will only attempt to take up some of the principal points in diagnosis and treatment. The objects in diagnosis are: First and most important, the determination of the amount of intracranial pressure; second, localized pressure; third the after effects, or end results of the present condition and how they will be altered by operation or other treatment. In the order of their importance as aids in diagnosis are the lumbar puncture with the measurement of the pressure of the cerebro-spinal fluid, by a mercurial manometer whenever possible, the ophthalmoscopic examination of the fundi of the eyes, the pulse, the temperature and the blood pressure. The diagnosis of a fracture is aided by a combination of history of accident, oozing of cerebral-spinal fluid from the ears, nose or mouth, localized ecchymosis, paresis or paralysis, disturbance of reflex, the x-ray and other clinical signs.

I cannot lay too much emphasis on the importance of the ophthalmoscopic examination in the hands of a competent oculist, being second only to the spinal puncture. The fundus of the eye and particularly the retina, being an offshoot from the brain, is most intimately connected with the brain and intracranial cavity so that any lesion within the intracranial cavity which increases its normal contents would naturally tend to be shown in the fundus of the eye, especially the optic nerve head. And an increased intracranial pressure sufficient to retard and even prevent the flow of blood in retinal veins would tend to cause a dilatation of these vessels with resulting edema and congestion. So a thorough ophthalmoscopic examination should be made in all suspected cases of increased intracranial pressure.

The pulse is of importance, especially in the absence of other means. A pulse of 48 or less with normal temperature or subnormal with other clinical signs, stupor, etc., demands a decompression. If there is fever present, that will be taken into consideration in judging the pulse. It is much better to operate on a declining pulse than on an ascending pulse.

The value of the x-ray lies in its ability to determine the amount of mechanical defect. The x-ray will show practically all fractures of the vault, the fracture fissures, the position of bone fragments, etc., but it will not show fractures of the base of skull. The x-ray will aid in diagnosing some borderline cases, especially where you are unable by palpation to determine whether or not there is bone depression of a pathologic degree.

After a diagnosis of increased intracranial pressure has been made and found that the patient will not be relieved himself through nasal or auditory leaks, or that there is localized pressure, then a decompression should be performed.

If the operator will limit himself to operate only in cases so diagnosed instead of operating all fracturess of the vault, as Binnie advises in his "Operative Surgery", the mortality will be reduced from about 80 per cent to 30 per cent. or 35 per cent. An infected decompression wound usually means a fatality.

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*Read before Tulsa County Medical Society, February 10, 1919.

Do not operate within three hours following the accident, the only exception to this being excessive external bleeding. About 15 per cent. of all acute cranial fractures are moribund and will die within three to six hours whether operated or not. A large majority of the remaining 85 per cent. will die if operated while in shock.

The operation of choice is the subtemporal decompression, which was first used by Harvey Cushing about 1913. For this operation the entire head should be shaved, preferably by a barber, and a sterile field prepared; the evening before or in case of early operation, the head is shaved and painted with tincture of iodine. After the patient is under anesthesia, the dressing is carefully removed and the head again scrubbed quickly with sterile green soap and then 70 per cent. alcohol.

The anesthesia is of special importance in these cases. It is best to have an oxygen tank or compressed air machine and conduct a mixture of ether and oxygen or vapor ether to the mask, this with rubber tube connection as the head of the patient must be covered during the operation. While compressed air ether vapor may be used, I prefer the oxygen ether vapor.

Whenever possible the decompression is performed on the right side in order to avoid the motor speech area, which is situated in right handed persons in the posterior portion of the third *left* frontal convolution and vice versa in left handed persons. The head is slightly elevated with the grooved head block and sand bags. A faint skin mark or incision is made before the sterile drapings are placed. This permits you to correctly place your incision and gives clear view to all the landmarks before they are covered. Towels wet in 1-3000 bicloride mercury are clipped to the scalp parallel to the incision, then crosswise. By clipping the towels in place they will not become disarranged during the operation. The draping completed and incision made, beginning one-half inch anterior to the external auditory meatus and on a level with the upper border of the zygomatic arch, the incision is carried vertically upwards through the scalp to the upper attachment of the temporal muscle. Hemorrhage is controlled by manual pressure, using the ulnar edge of the hands until hemostats are applied. The temporal fascia is split, then the muscle is split and retracted, exposing the squamous portion of the temporal bone. One should be careful not to destroy the upper attachment of the temporal muscle, otherwise the closing will be greatly weakened. The periosteum is pushed to either side, and a Doyen perforator and burr are used until the bone is perforated to the dura, then rongeurs are used until the bony opening is sufficiently large. This method of attacking the bone is superior to the trephine method. The squamous portion of the temporal bone is the flattest portion of the cranium and should be the ideal place for the trephine, but due to the inequalities of the thickness of the bone, not only in this area but throughout the cranium, a trephine button too often injures the dura, the delicate cortical cells, or causes damaging bleeding by tearing dural vessels.

Remember that the dura is inelastic, especially in the adult, and unless the dura is opened the intracranial pressure will not be relieved, which relief usually is the primary object of the operation. All bleeding must be stopped before the dura is opened. The diploe and sinuses are stopped with bone wax.

The dura is picked up with a dural hook, a small pin point hooked instrument. The dura is incised or nicked and a grooved director slipped under the dura as it is lifted away from the cortical cells. The opening is enlarged, either a crucial or stellate opening being made. The blood vessels are avoided and if severed, the hemorrhage is best controlled by small v-shaped silver clips compressed on the ends of the vessel by means of special forceps. The hemorrhage, if small, may be controlled by simple compression with the hemostat, or small ligatures, although the ligatures are time consuming and danger of injuring the brain cells. If blood clots present themselves they should be removed, but prolonged searching and probing for clots should be condemned. Sometimes an extradural clot

will give pressure symptoms, and on opening the dura the cerebral fluid is not bloody. The clot then should be located if possible. A rubber or gutta-percha drain one-fourth inch wide and several layers in thickness is inserted in the lower angle of the wound, inside the dura beneath the tempero-sphenoidal lobe as far as possible, draining the mid-cranial fossa and the operated area. If there has been much oozing, a like drain may be placed at the upper angle of the wound and removed at the close of the operation or a few hours after. All bleeding, no matter how small, should be controlled before closing. The temporal muscle is closed with two layers of sutures. Sharpe uses fine interrupted black silk throughout, including the skin. The temporal fascia is closed, the superficial fascia and then the skin. A pad of cotton dipped in vaseline is placed behind the ear and the entire head bandaged with gauze head rolls.

In the unoperative cases heavy doses of bromides, after recovery from shock and thorough purgation, will suffice. This applies to cases without severe pressure symptoms or those with ear or nasal leaks. If the ear is leaking it should be irrigated three to four times a day with solution of boric acid, alcohol and water. Mastoiditis, from infection through the ear and ruptureed ear drums is not infrequent and can best be avoided with the above treatment. Hematomas of scalp should all be incised and drained whether the skull is fractured or not, the strictest asepsis being used.

Conclusions: It is as important to know when and whether to operate these cases as to know how to operate them. Only 33 per cent. of fractures of the skull are operative cases. In the others, by treating the shock and then the use of ice caps or hemlets, bromides, purgation, etc., will suffice. Repeated lumbar puncture may aid in some cases where a decompression cannot be performed. An ophthalmoscopic examination of the fundi of the eyes and a lumbar puncture should be made in all suspected pressure cases. Patients should not be permitted to become blind or to reach the dangerous stage of medullary compression before a decompression is performed. The advantage over the subtemporal route is chiefly due to its anatomical relations. Not only is the squamous portion of the temporal bone the thinnist and therefore the least difficult to remove, but it exposes the portion of the brain most frequently involved in fractured skulls where the middle meningeal artery is torn. Also a permanent decompression here does not weaken the skull, in that the thick overlying temporal muscle most adequately covers the opening so that cerebral hernia need not be feared. It is also the route of choice in decompressions for tumors of the cerebrum, cerebral abscess, spastic paraplegia, hydrocephalus, and exploratory operations of the brain.

TUBERCULOUS ANORECTAL FISTULAS.

S. M. Hill, and A. A. Landsman, New York (*Journal A. M. A.*, March 22, 1919), report two cases of tuberculous anorectal fistula, in which the usual early accompaniments making diagnosis easy were absent. Ordinarily a tuberculous fistula has a flattened irregular opening, larger than that of the nontuberculous type. It is more or less insensitive, discharges a thin, dirty gray material, seldom thick or creamy, and the skin surrounding is bluish and undermined. In the cases reported the beginning was what appeared to be an ordinary abscess and fistula about the rectum, and for a considerable time it showed no pulmonary or other tuberculous indication. They were both followed by pulmonary involvement. They say: "1. Clinical signs that would serve to distinguish between specific and non-specific local lesions about the rectum are not dependable, because they may be late in making their appearance; consequently, laboratory examination should be resorted to as early as possible. 2. There may be a secondary pulmonary involvement from a tuberculous focus about the rectum, in individuals who lack resistance."

EPIDEMIC OR LETHARGIC ENCEPHALITIS.

Acute Infectious Ophthalmoplegia, Acute Encephalitis, Nona?

This unfamiliar disease, many cases of which were observed in England and France early in 1918 and in Vienna in the winter of 1916-1917, when von Economo suggested the name "encephalitis lethargica," now seems to be making its appearance in various parts of this country. In the recent discussion on influenza before the Institute of Medicine of Chicago, Bassoe[1] stated that during the last few weeks he had seen several cases which were characterized by marked drowsiness and paralysis of cranial nerves, especially the ocular, and which otherwise corresponded to the clinical picture of lethargic encephalitis, and that he knew of similar observations by other physicians. Last week Pothier[2] reported the clinical details of eight cases from Camp Lee, Va., and Neal[3] mentions the occurrence of cases in New York.

In previous editorial discussions[4] of the European, especially the English, reports on lethargic encephalitis, special emphasis was placed on its similarity to the cerebral and bulbar forms of epidemic poliomyelitis, and it was suggested that further investigations might show "the new disease" to be true epidemic poliomyelitis. In the meantime, the report[5] of an extensive investigation of lethargic encephalitis (168 cases) has appeared from which we learn that, while nothing by way of a causal agent has been demonstrated, intracerebral inoculations of monkeys with emulsions of diseased nervous tissue failed completely to produce any results. As the monkey is realyil susceptible to such treatment with similar material from cases of epidemic poliomyelitis, the present indications are that the two diseases are separate and distinct, and this conclusion is borne out also by certain clinical and epidemiologic differences to which attention has been called, by Netter in Paris, especially. It is noteworthy, however, that the anatomic changes in the two diseases are of the same general nature, and MacNalty[6] ventures the suggestion that the relation between epidemic poliomyelitis and lethargic encephalitis may be comparable to that between typhoid and paratyphoid fevers. The English investigators consequently regard lethargic encephalitis as due to an as yet unknown virus which causes inflammatory changes, especially perivascular infiltrations, in the basal ganglions, the upper part of the pons, especially in the gray matter of the floor of the fourth ventricle, and in less degree elsewhere in the medulla. It is distinctly a poliencephalitic disease: the outstanding clinical features are a more or less pronounced lethargy, often progressive, and paralysis of the third and less often other cranial nerves.[6]

Ophthalmoplegia was observed in about 75 per cent. of the English cases.

It is noteworthy that cases appear to occur with the general symptoms of fever, lethargy and weakness, but without paralysis, and hence are easily mistaken for the more common infections, though perhaps of the greatest importance in the spread of the disease, which now is notifiable in England and Wales. At present, however, no new cases seem to be occurring in these countries. The results of further and more complete observations of lethargic encephalitis as it occurs in this country will be awaited with special interest.

It is quite remarkable that while English and other Eruopean observers do not seem to place any special stress on the relation of the newly recognized disease to influenza, the American cases so far reported are associated by the observers, particularly Bassoe[1] and Neal,[3] more or less directly with influenza. Four of Pothier's[2] eight patients are said to have had influenza a few weeks before they came down with lethargic encephalitis. While the question thus raised cannot be answered at this time, the information we now have indicates that it is only in connection with epidemics of influenza that anything definitely resembling lethargic encephalitis is described in the older literature.

It is said that profound and prolonged sleep has been observed in connection with many epidemics of influenza since early times. Zuelzer[7] mentions

that in the epidemic of 1712, somnolent conditions were so frequent and so marked that in Tubingen, for instance, the disease was known as sleeping sickness, and Longuet[8] gives a quotation from Camerarus which appears actually to describe ophthalmoplegia. Coming down to more recent times, we find that in the early nineties of the last century, at the time of the influenza outbreak of 1889-1881, quite a little was written about a since forgotten disease called "nona" (also "la nonna"), which is said to have occurred especially in northern Italy and Hungary, but also elsewhere, and of which lethargy and weakness were pronounced manifestations.[9] At about the same time cases of ophthalmoplegia with stupor and somnolence were described by Blanc, Mauthner and others,[10] and the question was raised then whether "nona," was not a kind of ophthalmoplegia. "Nona," however, failed to establish itself as a definite disease, and was soon forgotten completely.[11]—*Jour. A. M. A.*, March 15, 1919.

1. Bassoe, Peter: J. A. M. A. **72:** 677 (March 1) 1919.
2. Pothier, O. L.: Lethargic Encephalitis, J. A. M. A. **72:** 715 (March 8) 1919.
3. Neal, Josephine B.: Meningeal Conditions Noted During the Epidemic of Influenza, J. A. M. A. **72:** 714 (March 8) 1919.
4. Is Epidemic Poliomyelitis Prevalent in England and France? Editorial, J. A. M. A. **71:** 1221 (Oct. 12) 1918; Encephalitis Lethargica: A new Disease? ibid. **72:** 414 (Feb. 8) 1919.
5. Report on an Inquiry into an Obscure Disease, Encephalitis Lethargica, L. G. B. Rep. N. S. 121; reviewed in Brit. M. J. **1:** 45 (Jan. 11) 1918.
6. For more complete description of symptoms see p. 794, this issue.
7. Zuelzer: Influenza, Ziemssen's Handbuch der speziellen Pathologie und Therapie **2:** 506, Part 2, 1874.
8. Longuet, P.: La nona Semaine med. **12:** 275, 1892.
9. For reference to the literature on nona, which is well abstracted by Longuet, see Index Catalogue, Library of Surgeon-General's Office, Series 2, **7:** 945, 1902 (Anomalous and Usual Forms of Influenza).
10. Cited by Longuet (Footnote 8).
11. The derivation and meaning of the word "nona" are obscure. It may have been a corruption of coma. Nona means literally ninth hour, and there is no evident connection between this meaning and the disease in question. "La nonna," a name also given the disease sometimes, means grandmother literally, and here again the connection is not evident. Nona is defined as follows in Foster's Encyclopediac Medical Dictionary (1894): "An alleged new form of disease reported in 1890 from northern Italy, Bavaria and Russia. It appears, however, that there is no foundation for the supposition that there is any such new disease, and that the reports are founded on cases of comatose typhoid fever, somnolence following influenza, and smallpox of an irregular and severe development."

MASTOIDECTOMY.

C. T. Perter (Boston), Camp Upton, Yaphank, L. I., N. Y. (*Journal A. M. A.*, Feb. 22, 1919), reports cases of operation for mastoid disease following influenza, with local anesthesia. "The method of administering was as follows: The patient was first given one-fourth grain of morphin subcutaneously, and in half an hour a 0.5 per cent. solution of cocain or procain, when the latter became available, was injected into the skin along the line of incision. The injection was then carried into the deeper layers and finally under the periosteum over the entire area of the mastoid. The insertion of the sternomastoid muscle and the posterior canal wall were injected at the last. About 15 c.c. of a 0.5 per ct. solution were used, in each case, although as high as 30 c.c. of a procain solution were used in one case—a double mastoiditis—and as low as 6 c.c. of a 0.5 per cent. solution of cocain were used in another case." After waiting for from five to ten minutes the operation was started and carried on in the usual manner. But little actual pain was complained of, though the pounding in removing the cortex was usually disagreeable. In only one case was general anesthesia necessary, and the total absence of any shock following the operation was remarkable. The incident of dry middle ears was 100 per cent., and there was no mortality. Several cases are reported, rather briefly.

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Local news of possible interest to the medical profession, notes on removals, changes in address, deaths and weddings will be gratefully received.

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EDITORIAL

THE ANNUAL MEETING, MUSKOGEE, MAY 20-22.

Local committees in Muskogee having charge of the annual meeting are perfecting arrangements and details for the event. All exhibits, and sections, so far as is now understood, will be held in one building, the County building at 2nd and Court streets.

Physicians contemplating attendance should make hotel reservations in advance as they are crowded. Requests for rooms should be mailed to the Hotel Severs. All hotels are operated on the European plan.

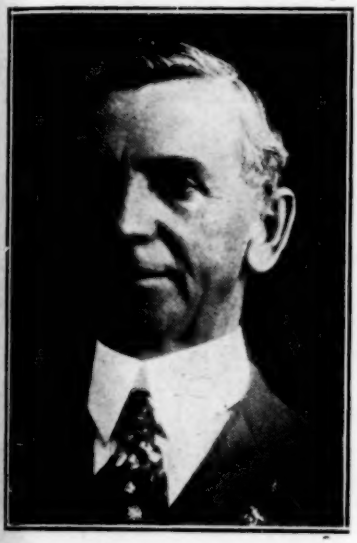
The May Journal will contain the program.

TUBERCULOSIS SANATORIA.

The State of Oklahoma is going into the business officially of combatting tuberculosis. The first step in that direction was the appropriation of $300,000 for the purpose of erecting three hospitals in different parts of the State. No locality was specified for these locations, though originally Talihina, the site of the United States Indian Service Tuberculosis Hospital, was named in the bill as one of the locations. That provision was eliminated. The management will be under direction of a branch of the Health Department created for that purpose.

THE NEW STATE COMMISSIONER OF HEALTH

The appointment by Governor Robertson of Dr. A. R. Lewis, of Ryan, to the position of State Commissioner of health will not only be welcomed by Dr. Lewis' many personal friends in the medical profession, but insures for Oklahoma a progressive and efficient State Health Department. Dr. Lewis is a trained and competent physician; he is in addition an able executive and a good business man—qualifications which are of importance in conducting a successful State Health Department.



DR. ARTHUR RIMMER LEWIS
STATE COMMISSIONER OF HEALTH

Dr. Lewis is a Mississippian by birth, but has for many years resided in Oklahoma and is familiar with Oklahoma's needs from the viewpoint of public health. He was born in Kosciuszko, Miss., in 1872. While a boy he came with his parents to Mexia, Texas. He was graduated in pharmacy in Philadelphia in 1895, received his medical degree in St. Louis in 1900 and began the practice of medicine in Fleetwood, Oklahoma, the same year. He later practised at Terral, going to Ryan 17 years ago, where he has since resided and where he has for long been regarded as one of the best known and most valued citizens, as well as a leading physician.

Dr. Lewis was appointed a member of the State Board of Medical Examiners under Governor Haskell. For ten years he was surgeon for the Rock Island railroad. He is a 32nd degree Mason, a Shriner and a member of all the representative medical and allied associations in the United States.

Under the laws and appropriations passed by the recent legislature provision is made for greatly expanding the scope of the work of the State Health Board. The work of the department will be enlarged in many directions. Oklahoma has a well deserved reputation as being one of the most progressive states in the Union. It should have a Health Department adapted to this reputation and to the growing needs of the State. Dr. Lewis in our opinion as State Health Commissioner will give the State such a department.

THE VENEREAL LAW ENROLLED.

Senate Bill No. 43.

By Hill and Mayfield, of the Senate and Thomas of the House.

An Act to Prevent and Stamp Out Venereal Diseases; Prescribing Remedies Against the Spread of such Diseases; Providing Certain Regulations Affecting Such Diseases and Persons Infected Therewith: Regulationg the Sale and Furnishing of Medicinal Remedies for Such Diseases; Forbidding Certain Practices and Customs in Connection with Such Diseases and the Treatment Thereof; Prescribing the Punishment for any Violation of any of the Terms of this Act; Repealing all Laws in Conflict with this Act, and Declaring an Emergency.

Section 1. For the purposes of this Act the words "venereal disease" shall include any and all diseases commonly communicable from any person to any

other person of the opposite sex through or by means of sexual intercourse and found and declared by medical science or accredited schools of medicine to be infectious or contagious. All words or phrases using the male or female gender, in this Act, shall be construed to mean and cover the gender of the opposite sex. "Infected person", as used in this Act, shall mean and apply to any person, of either sex, who may be contaminated or afflicted with any venereal disease. The word "dealer", as used in this Act, shall mean and cover any person, firm or corporation who or which may handle, for sale, any medicinal remedies or supposed remedies for venereal diseases, and the agents, clerks, and employees of any such person, firm or corporation; and any person, firm or corporation who or which may profess or claim to treat or cure, by the use of medicine or otherwise, any such venereal disease, and their agents, clerks and employees. The word "physician", used in this Act, shall include reputable physicians who have complied with all the requirements of law regulating the practice of their respective schools of medicine, and duly licensed by such law to practice medicine in their respective schools, or surgery, or both, and no other person. The word "keeper", as used in this Act, shall mean and cover any person or persons in charge or control of any penal or eleemosynary institution whether public or private who may be authorized either by law or by the rules of such institution to receive or discharge any person into or from such institution. Wherever the words "Board of Health" or "Health Officers" appear in this Act they should be construed to include the Board of Health and Health Officers of the State, County or Municipality of the State.

Section 2. It shall be unlawful for any person, being an infected person to refuse, fail or neglect to report such fact to, and submit to examination and treatment by some reputable physician. Any person violating the provisions of this Section shall be punished by fine of not less than Twenty-five Dollars ($25.00) or not more than Five Hundred Dollars ($500.00) or by confinement in the county jail for a term of not less than thirty (30) days, nor more than one (1) year, or by both such fine and imprisonment.

Section 3. Any person who shall, after becoming an infected person and before being discharged and pronounced cured by a reputable physician in writing, marry any other person, or expose any other person by the act of copulation or sexual intercourse to such venereal disease or to liability to contract the same, shall be guilty of a felony and upon conviction shall be punished by confinement in the penitentiary for not less than one (1) year or not more than five (5) years.

Section 4. Any physician who shall after having knowledge or information that any person is or may be an infected person, sell, give or furnish to such infected person or to any other person for such infected person a discharge from treatment, or written instrument or statement pronouncing such infected person cured, before such infected person is actually cured of such venereal disease, shall be guilty of a misdemeanor and punished by fine of not less than One Hundred Dollars ($100.00) nor more than Five Hundred Dollars ($500.00) or by confinement in the county jail for a term of not less than thirty (30) days nor more than six (6) months,.

Section 5. Any person who is not a physician, who shall undertake to treat or cure any infected person for pay, whether in money, property or obligation of any kind, unless acting under the direction and control of a physician, shall be guilty of a misdemeanor and upon conviction shall be punished by a fine of not less than One Hundred Dollars ($100.00) nor more than Five Hundred Dollars ($500.00) or by confinement in the county jail for a term of not less than thirty (30) days nor more than six (6) months or by both such fine and imprisonment; provided, however that any such person infected applying to any physician in this State shall receive treatment provided for in this bill, regardless of his ability to pay.

Section 6. It shall be unlawful for any dealer to treat or offer to treat any

infected person or to sell, furnish or give to any infected person or to any other person whomsoever any medicine of any kind that may be advertised or used for the treatment of venereal diseases before requiring such person to produce and file with such dealer a proper prescription for such medicine issued and signed by a reputable physician, which said prescription shall be by said dealer kept on file for a period of one (1) year from the date of his receiving the same, and subject at all reasonable hours, to the inspection of the health authorities in this State. A violator of any of the provisions of this Section shall be punished by a fine of not less than One Hundred Dollars ($100.00) nor more than Five Hundred Dollars ($500.00) or by confinement in the county jail for a term of not less than thirty (30) days and not more than six (6) months or by both such fine and imprisonment.

Section 7. Any and all institutions in this State, whether penal or eleemosynary and whether public or private and free or for pay, shall make and preserve for a period of at least one (1) year, a record showing the name, age, sex, color, nationality and place of residence of all infected persons of the inmates of such institution that may come to their knowledge and shall submit such record at all reasonable hours to the inspection of the duly accredited health authorities in this State. All such institutions shall furnish a physician and all proper medicines, instruments and apparatus for the proper treatment of such infected person, and shall isolate and separate all infected persons from all other persons in such institution by causing such infected persons to use separate beds, rooms, lavatories and toilet rooms and facilities, from all other persons. Any keeper, manager, guard, or other person in control of any such institution who shall wilfully fail or neglect to comply with the provisions of this Section or who shall violate any of the provisions hereof, shall be guilty of a misdemeanor and shall be punished by a fine of not less than Two Hundred Dollars ($200.00) nor more than One Thousand Dollars ($1,000.00) or by imprisonment in the county jail for a term of not less than thirty (30) days nor more than one (1) year or by both such fine and imprisonment.

Section 8. The keeper, manager, guard or person in control of every prison or penal institution in this State, shall cause to be examined every person who shall be confined in such prison or penal institution after conviction for any offense against the laws of the State or any municipality thereof, to determine whether such person is an infected person. Every such person found to be an infected person, after the expiration of his or her sentence, shall be kept in such prison or some other suitable place for treatment until pronounced cured by a physician and discharged by the health authorities of this State. Where such infected person is unable to pay for such treatment the same shall be furnished and administered at the public expense by the State, County or Municipality in whose prison such infected person may be confined; provided, however, that where infected persons have served their full sentences to such prison, the Board of Health may permit such infected person to leave such prison and to stay at home, or other suitable place before being cured, if, in the judgment of said Board of Health, such infected is able to do so, and will continue proper treatment for such venereal disease. State, County and Municipal Health Officers, or their authorized deputies who are physicians within their respective jurisdictions, are hereby directed and empowered, when in their judgment it is necessary to protect the public health, to make examinations of persons convicted for sex offenses and to detain such persons until the results of such examinations are known. Any keeper, manager, guard, or other person on control of any such prison or penal institution who shall knowingly violate any of the provisions of this Section shall be deemed guilty of a misdemeanor and be punished by fine of not less than One Hundred Dollars ($100.00) nor more than One Thousand Dollars ($1,000.00) or by confinement in the County jail for a term of not less than three (3) months nor more than one (1) year, or by both such fine and imprisonment.

Section 9. The prescriptions and records provided for herein to be filed

and kept, shall not be exposed to any person other than the duly elected or appointed health authorities of the State, County or Municipalities, or when properly ordered by a court of competemt jurisdiction to be used as evidence in such court and no health authority shall be permitted to give any information whatever to any other person concerning any infected person except to appropriate persons for use in the proper courts of this State. Any person who shall violate any of the provisions of this Section shall be guilty of a misdemeanor and be punished by a fine of not less than Fifty Dollars ($50.00) nor not more than One Hundred Dollars ($100.00) and in addition thereto shall be liable in damages to any person who may be damaged by such violation.

Section 10. All Acts and parts of Acts in conflict herewith are hereby repealed.

Section 11. For the preservation of the public peace, health and safety, an emergency is hereby declared to exist, by reason whereof, this Act shall take effect and be in force from and after its passage and approval.

Passed by the Senate this 13th day of March, A. D. 1919.

M. E. Trapp,
President of the Senate.

Passed by the House of Representatives this 8th day of March, A. D. 1919.

Tom C. Waldrep,
Speaker of the House of Representatives.

Approved this 19th day of March, 1919.

J. B. A. Robertson,
Governor of the State of Oklahoma.

Correctly Enrolled.
J. S. Vaughon,
Chairman Committee on Engrossing and Enrolling.

PERSONAL AND GENERAL NEWS

Dr. W. H. Powell, Sulphur, visited the New Orleans clinics in April.

Dr. F. E. Rushing, Coalgate, has established a hospital in that city.

Dr. C. M. Pratt, Pauls Valley, is doing special work in New York.

Dr. W. D. Faust, Ada, is doing postgraduate work in New York and Boston.

Dr. Jesse M. Salter, Sulphur, has returned from army service and reopened his offices.

Dr. R. F. Cannon, Miami, has been discharged from the army and is taking up his work again.

Dr. N. H. Lindsay, Pauls Valley, has returned from a vacation of several weeks spent at Palm Beach, Florida.

Dr. R. H. Harper, Afton, who underwent an operation in St. Louis in February, has recovered and resumed his work.

Dr. C. L. McClelland, Miami, has returned to his home after several months postgraduate work in New York City.

Dr. G. N. Bilby, Alva, has returned from overseas service and is stationed at Debarkation Hospital No. 1, Hoboken, N. J.

Dr. C. J. Brunson, Adamson, has been discharged and returned from overseas service. He was stationed at Coblenz, Germany.

Dr. J. G. Waldrep, Claremore, has returned from a visit to Tennesee where he went to recoup his physicial losses after an attack of influenza.

Dr. L. A. Newton, Oklahoma City, has been discharged from the Army and returned to his Oklahoma City location, opening offices at 214 Colcord Building.

Captain H. M. Stricklen, Tonkawa, who is stationed at Ft. Jay, a few minutes out of New York City, expects to return to his Oklahoma location this month.

Dr. E. E. Shippey, Wister, who sustained a fractured skull due to a personal assault, is reported to be recovering. It is said his assailant struck him from the rear without warning.

Captain Arthur W. White, Olahoma City, after many months romping around and being romped on at army camps, is back on the job as a civilian. His new location is 221 State Bank Building.

Dr. Phil Herod, El Reno, one of the few Oklahoma physicians fortunate enough to secure foriegn service, is back at home, discharged from the army and has taken up the pleasanter duties of civilian life.

Dr. C. E. Putnam, Lieut., M. C., Cyril, Oklahoma, stationed at Coblenz, writes the Journal from Monte Carlo where he is taking a leave and vacation. He forgot to advise us the size of the chips they use in that haven of sports.

Dr. Charles E. Northcutt, Lexington, has been decorated for conspicuous bravery and distinguished service by the British Government. Dr. Northcutt is attached to the British forces and was one of sixty-six medical officers and men so decorated.

Dr. G. H. Clulow, Tulsa, Captain, M. C., U. S. A., stationed at Coblenz, and Mrs. Annie Anderson, Crossmyloff, Scotland, were married abroad February 18. Dr. and Mrs. Clulow were formerly fellow students in Western Reserve University, Cleveland.

Oklahoma Hospital Representatives will hold a meeting at the Severs Hotel, Muskogee, May 21 for the purpose of perfecting a State Hospital Association. Dr. Fred S. Clinton, Tulsa, Chairman of the State Committee on Hospitals, will call the meeting to order.

Captain William Patton Fite, M. C., U. S. A., Muskogee, who went overseas with the 36th Division, was signally honored recently when he received a special assignment in Paris, being the only man in his division selected for the work. He is a son of Dr. F. B. Fite.

Dr. P. E. A. Fling, Hugo, died suddenly from heart disease at his home March 16th. Dr. Fling was one of Choctaw County's oldest practitioners from the standpoint of residence, having practiced there eighteen years, but was in the prime of life at the time of death, being fifty years of age. He was a native of West Virginia and leaves to mourn his loss a wife and daughter and a number of brothers and sisters.

Dr. Geo. H. Wallace, Cheyenne, who has been stationed in the Philippine Islands during the war, has returned to his home. His home-coming is surrounded with some difficulties. During his absence a fire destroyed his library and instruments. Now would be a very good time for the people of Roger Mills County who he has so often befriended to "get back at him" with a "shower" of up-to-date medical literature and nickle plated paraphernalia.

Dr. A. B. Montgomery, Checotah, Lieut. M. C., U. S. A., has a service record which will always be a matter of pride to him and his many friends. In addition to the record he accumulated more than his share of bad luck, for when the record is noted we all agree that he should have long ago been promoted on the record alone without considering his many qualifications as an able practitioner and physician. Ordered into active service August, 1917, Ft. Sam Houston; August 26 to 13 Field Artillery; December 13 to Camp Greene, N. C.; March 14, 1918, to Camp Merritt, N. J.; sailed from Hoboken April 23, landed at Brest May 30; to nearby barracks until June 7; Camp de Songe until July 29 when he went to the Front via Paris to Chateau Thierry, arriving August 30; into action at Chery Chartreuse August 5 and constantly engaged until August 16; in action at St. Mihiel to September 12, rested from the 15th to 23rd then into Meuse-Argonne battle September 26th. While moving forward to Mountfacon September 28th, all other impediments having failed to stop him he fell to influenza, was evacuated to Base Hospital 3, not recovering he was ordered home from Bordeaux December 17; Newport News 30th; to Camp Kearney, Calif., January 15th where he has remained in the hospital until late in March when he was reassigned to active duty. This detailed statement of the happenings is given as an example of what occurred to many Oklahoma physicians. It is a record one may feel pride in and the Journal takes this means to congratulate Dr. Montgomery on his safe return.

DISCHARGES FROM THE ARMY.

Arthur W. White, Oklahoma City
T. J. Nunnery, Granite
B. J. Plunkett, Duncan
F. L. Patterson, Woodward
W. A. Thompson, Kusa
L. A. Mitchell, Frederick
C. J. Brunson, Adamson
E. H. Lain, Paoli
J. M. Salter, Sulphur
W. W. Lightfoot, Thackerville
Ed. D. James, Miami
G. H. Wallace, Cheyenne
T. H. Flesher, Edmond
J. G. Harris, Muskogee
Phil. Herod, El Reno
R. F. Cannon, Miami

MISCELLANEOUS

WHAT IS "PTOMAIN" POISONING?

The term "ptomain" poisoning has become a cloak for ignorance. Jordan says "ptomain poisoning is a convenient refuge from etiologic uncertainty." In fact, any acute gastro-intestinal attack resulting from a great variety of causes is apt to be called "ptomain" poisoning. Selmi, in 1873, first

used the word ptomain (from Greek, a corpse) to include the poisoning products of putrefaction which gave the reaction then looked on as characteristic of vegetable alkaloids. From the time of Selmi, when ptomains were regarded as aminal 'alkaliods, our conception of these substances has changed markedly. The last attempt to give precision to the term was by Vaughan, who defined ptomains as intermediate cleavage products of protein decomposition. Rosenau and his associates at Harvard have been searching in vain for the past year and a half for ptomains that might cause gastro-intestinal or other symptoms. Split products of protein putrefaction are readily isolated. Some of these products have physiologic activity, but none of them thus far have been demonstrated to be poisonous when taken by the mouth. The so-called ptomains isolated and described by Selmi, Nencki, Brieger, Schmiedeberg, Faust and Vaughan were usually obtained from putrid organic matter that had decomposed past the point at which it would be used as food. Furthermore, most of these substances were tested by injecting them subcutaneously or intravenously into animals. Many substances are poisonous when thus introduced parenterally, though they may be harmless by the mouth. Again, many of the so-called ptomains isolated and described have since been shown to contain impurities. Chemists are now seldom confident of the purity of protein fractions, even when obtained in crystalline form. The chemical search for split protein products as the cause of "ptomain" poisoning has practically been abandoned. Most of these split products are amins, which are either not poisonous at all, or no more so than their corresponding ammonia salts. The chemical resemblance between muscarin and cholin has directed the work toward the phosphatids, but thus far this line of research has not helped solve the puzzle of "ptomain" poisoning. Chemists avoid the use of the word ptomains, for the reason that it lacks precision. This is a curious instance of the popular use of a technical term that sounds well, but means little. Only clinicians cling to it as a convenient refuge. Ptomain is a term for chemical substances of uncertain origin, unknown nature, and doubtful existence.—Jour. *A. M. A.*, March 8, 1919.

SOMETIMES YOU GET AN ORDERLY

Before I fell a victim
To the wiles of the Spanish "flu"
I'd gathered from the posters,
And certain movies, too,
That when it came to nurses
You always woke to view
Some peach from Ziegfield's Follies
Who slipped the pills to you.

I've read the artful fiction
About the angels fair
Who sat beside your pillow
And stroked your fevered hair,
And made you kind of careless
How long you lingered there
In the radiant effulgence
Of a lovely baby stare.

That may be true in cases,
The way it is in plays,
But mine was no white lady
Of lilting roundelays;
For while I was a blesse
The nurse who met my gaze
Was Private Pete Koszolski,
Who hadn't shaved for days.
—Lieut. John Pierre Roche,
87th Division, A. E. F., in *Saturday Evening Post.*

COUNCIL ON PHARMACY AND CHEMISTRY.

PROPAGANDA FOR REFORM.

B. Iodine and B. Oleum Iodine. The Council on Pharmacy and Chemistry reports that while B. Iodine (The B. Iodine Chemical Company) is said to be "Nitrogen Hydrate of Iodine" and B. Oleum Iodine a 5 per cent. solution thereof, the examination made in the A. M. A. Chemical Laboratory indicates that the first is a simple mixture of iodin and ammonium iodin, and the second a solution of iodin in liquid petrolatum. The Council declared these preparations inadmissible to New and Nonofficial Remedies because: 1. The composition of B. Iodine is incorrectly declared. B. Iodine is not a newly discovered iodin compound, but a mixture of iodin and ammonium iodid. B Oleum Iodine is not a 5 per cent. solution of B. Iodine as suggested by the statement on the label and in the advertising, but an 0.85 per cent. solution of iodin in liquid petrolatum. 2. Since the solution

of B. Iodine in water will have the proprieties of other solutions of iodin made by the aid of iodid, the therapeutic claim made for it is unwarranted. 3. The names "B. Iodine" and "B. Oleum Iodine" are not descriptive of the pharmaceutical mixtures to which they are applied. 4. The preparations are unessential modifications of established articles. The first has no advantage over tincture of iodin or compound solution of iodin, and the second no advantage over extemporaneous solutions of iodin in liquid petrolatum (Jour. A. M. A., Feb. 1, 1919, p. 365).

Misbranded Nostrums. The following nostrums were declared misbranded under the Federal Food and Drug Acts because of the false, fraudulent or misleading claims made for them: M. I. S. T. (Murray's Infallible System Tonic); M. I. S. T. No. 2, Nerve Tonic; Imperial Remedy; "Japanese Wild Cherry Cough Syrup;" "Japanese Herb Laxative Compound"; Dr. E. E. Burnside's Purifico No. 1, 2; Dr. E. E. Burnside's Purifico No. 3: Emerald Oil; Bristol's Sarsaparilla; Dr. Belding's Six Prairie Herbs; Dr. Carter's K. and B. Tea; "Brazilian Balm"; "Renal Tea"; Las-I-Go for Superb Manhood; Blood Tabs; Dr. Miles Restorative Nervine; Kilmer's Swamp Root; Homenta; Hinkley's Bone Liniment; Kopp's Baby's Friend; Kopp's Kidney Pills; Reuter's Syrup; Garfield Tea; Di-Col-Q; Sloan's Liniment; Bannerman's Intravenous Solution; Cummings Blood Remedy; and Giles' Germicide (Jour. A. M. A., Feb. 8, 1919, p. 439).

Cerelene Not Admitted to N. N. R. Cerelene, a paraffin preparation for the treatment of burns, was submitted to the Council on Pharmacy and Chemistry by the Holliday Laboratories with the statement that it was composed of 84 per cent. paraffin, 15 per cent. myricyl palmitate stated to be purified beeswax, and 1 per cent. purificd elemi gum, to which are added oil of sucalyptus, 2 per cent. and betanaphthol, 0.25 per cent. It was stated that on "special order" Cerelene has been made containing oil of eucalyptus and resorcin, oil of eucalyptus and picric acid, and picric acid alone. The Council declared Cerelene is inadmissible to New and Nonofficial Remedies because there was no evidence to show that this preparation had any advantage over simple paraffin of low melting point (Paraffin for Films—N. N. R. because there is no proof that the medicinal ingredients leave the wax when it is used, and because the constituent "myricyl palmitate" has not been accepted for New and Nonofficial Remedies (Jour. A. M. A., Feb. 15, 1919, p. 513).

Beef, Wine and Iron. So long as one of the largest mail order houses in this country continues to sell Vinum Carnis et Ferri, N. F. in gallon jugs, the drought from prohibition legislation may not be as noticeable as it might otherwise. Seriously however, is it not about time for the professions of medicine and pharmacy to heave into the discard such utterly unscientific combinations as "Beef, Wine and Iron"? (Journal A. M. A., Feb. 15, 1919, p. 498)

Misbranded Nostrums. The followimg nostrums were declared misbranded under the Federal Food and Drugs Act because of the false, fraudulent or misleading claims made for them: Hall's "Texas Wonder"; King's Liver and Kidney Alterative and Blood Cleanser; En-Ar-CO Oil; Lindsey's Improved Blood Searcher; White Eagle's Indian Oil Liniment; Aqua Novä Vita; Brown's New Consumption Remedy; Akoz Ointment; Akoz Rectal Suppositories; Akoz Powder; Akoz Dusting Powder; Akoz Plaster; Akoz Compound; Flenner's Kidney and Backache Remedy, and Wine of Chenstohow (Jour. A. M. A., Feb. 22, 1919, p. 591).

Styptics. Ordinary bleeding has a strong tendency to stop spontaneously with the formation of a clot, so that the benefit attributed to a drug that has been used as a hemostatic cannot easily be evalusted. Evidence of the current confusion of cause and effect in relation to local hemostatics has been furnished by P. J. Hanzlik. In general he finds that the local application of vasoconstrictor and astringent agents diminishes or arrests local hemorrhage, while vasodilator and irritating agents (without astrignent action) increase local bleeding. The value of the newer thrombolastic agents of the kephalin or tissue extract type is considered as still uncertain. Epinephrin remains as the most efficient and desirable hemostatic agent. Tyramin and pituitary extracts were found efficient, and, unlike epinephrin, they do not increase bleeding later. Astringents were found variably effective, ferric chlorid and tannin standing highest, while alum was disappointing. The vaunted cotarnin salts (stypticin and styptol), antipyrin and emetin were found to increase bleeding on local application (Jour, A. M. A., Feb. 22, 1919, p. 577).

Wildroot Dandruff and Eczema Cure. Dr. Harvey W. Wiley, in his book "1001 Tests", thus characterizes this preparation: "Contains arsenic, and some phenolic body, probably resorcin; perfumed and colored. The trace of alkalodali material present was too small for identification. Contains 40 per cent. of alcohol, as declared, and less than one-half of 1 per cent. of nonvolatile matter. Claims that it is an herb compound and a positive remedy for eczema and dandruff obviously untenable" (Jour. A. M. A., Feb. 22. 1919, p. 594).

Benzyl Alcohol. While experience alone will tell whether or not the local anesthetic benzyl alcohol or phenmethylol will come up to the expectations of the discoverer of its action, it was deemed of sufficient promise by the Council on Pharmacy and Chemistry to warrant its admission to New and Nonofficial Remedies (Jour. A. M. A., Feb. 22, 1919, p. 594).

EMPHYSEMA.

H. K. Berkley (Los Angeles), and T. H. Coffen (Portland, Ore.), Camp Lewis, American Lake, Wash. (*Journal A. M. A.*, Feb. 22, 1919), describe an extensive subcutaneous and interstitial emphysema occurring in nine patients in Camp Lewis as a complication of bronchopneumonia. Two patients also developed spontaneous pneumothorax in the camp, and it seems to the authors likely that there is a relationship between the two conditions. One patient, indeed, presented both conditions at different times. In each case the bronchopneumonia was corroborated by roentgenography and in fatal cases by necropsy. The type pneumonia was comparatively mild, but different from that usually seen in robust young adults. It began usually with malise for twenty-four to forty-eight hours, diffuse body pains, aching joints, cough and chilliness. The patients appeared, as a rule, only moderately ill and the initial temperature was rarely over 101 F. Lung symptoms usually were present when they had been in the hospital twenty-four to forty-eight hours, and after three or four days most of the patients showed improvement and went on to uneventful recovery. In a few, however, the condition became critical and it was among these that the emphysema and pneumothorax developed. The authors describe the bacteriologic findings, but it was impossible to connect any special organism to the phenomena noted. The mechanism of the production of emphysema and pneumothorax is discussed, and the presumed routes, both intrapleural, and extrapleural, of the passage of air to the tissues of the chest wall are suggested. The article is illustrated.

COUNCILOR DISTRICTS.

District No. 1. Texas, Beaver, Cimarron, Harper, Ellis, Woods, Woodward, Alfalfa, Major, Grant, Garfield, Noble and Kay. G. A. Boyle, Enid.

District No. 2. Dewey, Roger Mills, Custer, Beckham, Washita, Greer, Kiowa, Harmon, Jackson and Tillman. Ellis Lamb, Clinton.

District No. 3. Blaine, Kingfisher, Canadian, Logan, Payne, Lincoln, Oklahoma, Cleveland, Pottawatomie, Seminole and McClain. G. M. Maupin, Waurika.

District No. 4. Caddo, Grady, Comanche, Cotton, Stephens, Jefferson, Garvin, Murray, Carter, and Love. J. T. Slover, Sulphur.

District No. 5. Pontotoc, Coal, Johnston, Atoka, Marshall, Bryan, Choctaw, Pushmataha and McCurtain. J. L. Austin, Durant.

District No. 6. Okfuskee, Hughes, Pittsburg, Latimer, LeFlore, Haskell and Sequoyah. Vacant.

District No. 7. Pawnee, Osage, Washington, Tulsa, Creek, Nowata and Rogers. N. W. Mayginnis, Tulsa.

District No. 8. Craig, Ottawa, Delaware, Mayes, Wagoner, Cherokee, Adair, Okmulgee, Muskogee and McIntosh. J. H. White, Muskogee.

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Address all communications to the Secretary, Dr. J. J. Williams, Weatherford.

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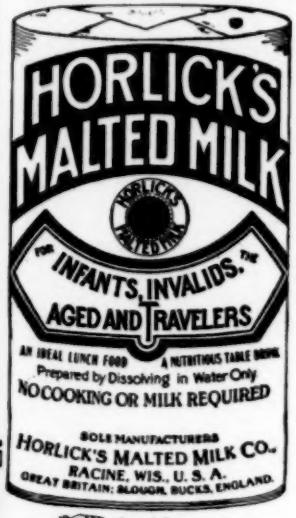
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3rd Vice-President,—Walter Hardy, Ardmore.
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Meeting place, Muskogee—May 20-21-22, 1919 Headquarters, Hotel Severs. For details address Dr. H. C. Rogers, Phoenix Building, Muskogee.

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For the Study and Control of Pellagra—Drs. A. A. Thurlow, Norman; L. A. Mitchell, Frederick; J. C. Watkins, Checotah.
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XUM

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Johnston		H. B. Knisely, Tishomingo.
Kay		A. S. Risser, Blackwell.
Kingfisher	Frank Scott, Kingfisher	C. W. Fisk, Kingfisher.
Kiowa		A. T. Dobson, Hobart.
Latimer	E. L. Evins, Wilburton	C. R. Morrison, Wilburton
Le Flore	C. H. Mahar, Spiro	Harrell Hardy, Poteau
Lincoln		C. M. Morgan, Chandler
Logan		O. E. Barker, Guthrie.
Love		
Mayes	J. L. Adams, Pryor	L. C. White, Adair.
Major		
Marshall	J E Reed, Madill	J L Holland, Madill
McClain	J. W. West, Purcell	O. O. Dawson, Wayne
McCurtain		R. H. Sherrill, Broken Bow
McIntosh	S. W. Minor, Hitchita	W. A. Tolleson, Eufaula
Murray	A P Brown, Davis	W. H. Powell, Sulphur.
Muskogee	J. L. Blakemore, Muskogee	H C. Rogers, Muskogee
Noble		B. A. Owen, Perry.
Nowata	J. E. Brookshire, Nowata	J. R. Collins, Nowata
Okfuskee	C. C. Bombarger, Paden	H. A. May, Okemah.
Oklahoma	W. J. Wallace, Oklahoma City	J. N. Alford, Oklahoma City
Okmulgee	Harry Breese, Henryetta	W. B. Pigg, Okmulgee
Ottawa	A. M. Cooter, Miami	G. Pinnell, Miami
Osage	A. J. Smith, Pawhuska	Benj. Skinner, Pawhuska
Pawnee		E. T. Robinson, Cleveland
Payne		J. B. Murphy, Stillwater
Pittsburg	L. C. Kuyrkendall, McAlester	T. H. McCarley, McAlester.
Pottawatomie	E. E. Rice, Shawnee	G. S. Paxter, Shawnee.
Pontotoc	L. M. Overton, Fitzhugh	S. P. Ross, Ada
Pushmataha	H. C. Johnson, Antlers	Edw. Guinn, Antlers
Rogers		J. C. Taylor, Chelsea.
Roger Mills		
Seminole	W. T. Huddleston, Konawa	W. L. Knight, Wewoka.
Sequoyah	V W Hudson, Salisaw	S A McKeel, Sallisaw
Stephens		H. C. Frie, Duncan.
Texas	W. H. Langston, Guymon	R. B. Hays, Guymon
Tulsa	G. A. Wall, Tulsa	C. A. Pigford, Tulsa
Tillman		J. E. Arrington, Frederick.
Wagoner	C E Haywood, Wagoner	C E Martin, Wagoner
Washita		A. S. Neal, Cordell.
Washington		A. North, Bartlesville
Woods		J. A. Bowling, Alva.
Woodward		Arthur Bowles, Woodward.